# Orsted A greener, more prosperous UK

# **About Ørsted**

We believe in a world that runs entirely on green energy. As the global leader in offshore wind, we are now also active in solar and onshore wind. In addition, we are developing recycling and bioenergy plants and operating battery storage units, as well as providing green energy services for businesses and industry.

# The UK: our largest market

The UK is pivotal to our vision. Our 11 wind farms already supply enough electricity for over 3.2 million homes – and this will increase to over 5.5 million homes in the next four years. Onshore, we are commissioning a recycling and bioenergy plant in Cheshire - the first of its kind in the world. We are pioneering commercial energy storage in Merseyside and helping businesses up and down the country to save energy, costs and carbon.



# The Ørsted sustainability strategy

For our business model to make a meaningful and lasting contribution to global sustainable development, we have identified three global priorities – the first also being our company vision:

1. Pursue a world that runs entirely on green energy 2. Enable sustainable growth 3. Ensure business integrity

These priorities are supported by programmes that aim to make a targeted and sustained impact on our most material issues. We identify these issues in consultation with our stakeholders and we review them annually.

# The bigger picture

Our sustainability strategy aligns with the UN Sustainable Development Goals (SDGs) that span economic, social and environmental challenges.

In 2018, we worked with sustainability experts, Trucost, to quantify our impact against the SDGs. Their analysis confirmed we are closely aligned, with a direct contribution to Goal 7 (sustainable and affordable energy) and Goal 13 (climate action). We also make an indirect contribution to Goal 8 (economic growth).



- In 2018, 75% of our energy generation was green. By 2025, we target 99%.
- Our offshore wind farms can aenerate enough areen energy to power more than 12 million people. By 2025, we aim to install enough capacity to power more than 30 million people.
- By 2030, we have a target of more than 30GW of green energy generation capacity that comprises on- and offshore wind, solar PV and biomass-fired power stations. This is enough to power more than 50 million people.



- In the past ten years, we have invested £19 million in green energy with our partners. Towards 2025, we expect to invest additional £19 million in areen eneray.
- The offshore wind farms we have installed together with the offshore, wind farms we have under construction, create 180,000 job years in their lifetimes



- We have reduced the carbon intensity of our energy generation by 72% compared to 2006, aiming for a 98% reduction bv 2025.
- Since 2006, power from our offshore wind farms has helped avoid emissions of more than 31 million tonnes of CO<sub>2</sub>, equal to taking all approx 16 million cars in Los Angeles, New York, and San Francisco off the street for a vear



# **Our global contribution**

Our wind farms help avoid carbon emissions by displacing fossil-based energy from the energy mix. We report avoided emissions based on our power generation from wind farms. adjusted for Ørsted ownership share (after divestments). In 2018, our generation of wind power avoided 6.7 million tonnes CO<sub>2</sub>. In addition, we helped avoid 1.4 million tonnes CO<sub>2</sub> through our sustainable biomass-based generation.

#### Key

Installed capacity (by 2018) People powered (by 2018) Avoided emissions (in 2018)\* Awarded

# Taiwan 1,820 MW

In comparison, energy generation at our combined heat and power stations and other fuel consumption of, for example vessels and cars, accounted for 3.5 million tonnes of CO<sub>2</sub> in 2018. Our carbon emissions from generation and transportation will be close to zero by 2023 as we phase out coal.



# A global purpose with a local impact

To date, we have invested £9.5 billion in UK offshore wind infrastructure, with a further £3.5 billion in the pipeline up to 2021. In this report, we show how our investments have supported the regeneration of the country's industrial regions, with multiplying benefits across the UK.

Behind our UK investment is a workforce of talented people who believe in our purpose. We seek to create fair, inclusive and rewarding jobs, in turn strengthening the communities where we're based. We do this while continually deepening our understanding of our interaction with the natural environment.

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This responsibility update covers the calendar year 2018 and all UK entities. For detailed sustainability disclosures and performance data, see our Group Sustainability Report and Environmental, Social and Governance (ESG) performance reports at ørsted.com/sustainability.

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# Foreword by Matthew Wright

UK Managing Director



2018 was another significant year. We opened two major new offshore wind farms, including the world's largest off the coast of Cumbria. Our first commercial battery project in Liverpool marked another step towards a smarter low carbon grid and we're on the brink of commissioning a world-first recycling and bioenergy plant in Cheshire. These are just a fraction of Ørsted's UK projects that are diversifying the country's energy landscape in the transformation to a green economy.

#### A precedent set by wind

With the latest data showing that we have only 12 years to limit the catastrophic effects of climate change, it is imperative that we continue to take urgent action to accelerate the energy transition. It's why the staggering growth of the UK's offshore wind industry, and the Government's new Sector Deal, are all the more encouraging (see page 7). Offshore wind is fundamental to a greener UK.

In just 10 years, turbines have more than doubled in power. At the same time, the cost of electricity from offshore wind has dropped dramatically, making it not only competitive but cheaper than many other energy sources. Part of this is down to our research and development partnerships with universities including Oxford, Durham and Hull (see page 10). Continuous and revolutionary technological innovation means we can produce renewable energy with increasing efficiency.

It is vitally important that we consider the full impact of deploying offshore wind at scale, which is why our collaborations with global marine wildlife experts and conservation groups have been incredibly important. They have deepened our understanding of the complex and fragile environments in which our industry operates.

#### Exciting careers are accessible to all

Offshore wind opens immense economic possibilities for the UK, from regenerating coastal towns to exporting home-grown, innovative and state-of-the-art technologies worldwide. To unlock these possibilities further, we need more skilled people to access these opportunities. The global workforce increasingly looks for meaningful work; that is exactly what we can offer, combined with exciting professional challenges in a fast-paced business with new products, projects and markets.

We have a number of strategic programmes, including apprenticeships, our Teach First partnership and our volunteer programme to show young people in schools, colleges and communities just how attainable these careers are (see page 26).

Our purpose-driven approach, combined with the dynamic nature of this industry, makes for a culture buzzing with passionate, bright people. However, if we are to continue to grow and expand, we must ensure that our workplace is based on merit and is inclusive to all.

We're championing employee-led diversity networks and initiatives to level the playing field for all. But, change cannot solely come from within; that's why we're working across the industry with our peers and in our communities to reach those we want to attract (see page 28).

#### The year ahead

As our business continues to grow and expand we recognise that we have a broader responsibility to be a force for positive change – not only in terms of the energy transition, but also in our wider contribution to society.

With so many great people working for – and with – Ørsted, I am very optimistic about the reality of a green, prosperous UK.

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Matthew Wright, UK Managing Director

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Our purpose-driven approach, combined with the dynamic nature of this industry, makes for a culture buzzing with passionate, bright people.





# 2018 highlights











# At the heart of the energy transition

We are helping to position the UK at the forefront of the global energy transition. Having led the growth of the largest installed capacity of offshore wind in the world<sup>2</sup>, as well as providing British industry and commerce with green energy solutions, we're diversifying into battery storage and recycling and bioenergy plants.

From our ownership share of offshore wind farms alone, Ørsted helped the UK avoid nearly 3.9 million tonnes of CO<sub>2</sub> equivalent emissions in 2018. The coming years will see this figure increase dramatically as we help accelerate the green energy transition.

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# Pursuing a world that runs entirely on green energy

Over the last 12 years, Ørsted has unlocked some of the vast energy potential off the UK coastline and beyond. The recent Offshore Wind Sector Deal, made between Government and the industry, strengthens our long-term commitment to a greener UK economy, particularly for post-industrial regions in the north-west and east of England.

#### The Offshore Wind Sector Deal

Recognising the tremendous value already brought to the UK economy through the 11,000 direct jobs, supply chain opportunities and increased efficiency of offshore wind energy, the UK Government recently agreed a Sector Deal with the industry that will unlock the opportunity to make offshore wind the backbone of Britain's electricity system.

The deal will drive the transformation of offshore wind generation and boost the productivity and competitiveness of the UK supply chain. This focus on building the capability of our supply chain will allow companies to play a greater role in the UK's global leadership in offshore wind generation, while enhancing their competitiveness internationally.

These ambitions will be realised through up to £250 million industry investment into the supply chain, including an Offshore Wind Growth Partnership, supporting business growth and high-quality jobs right across the UK. With this deal in place, offshore wind could contribute up to 30 gigawatts of generating capacity by 2030, establishing a foundation to deliver 75 GW by 2050.

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In the last 20 years, we have seen offshore wind grow from a nascent sector to the industrial powerhouse we see today. The Sector Deal<sup>3</sup> will keep the UK at the forefront of this vibrant 21st century industry.

Rt Hon Greg Clark MP, Secretary of State for Business, Energy and Industrial Strategy

<sup>2</sup>36% of alobal capacity (GWEC, 2017) Source: https://awec.net/alobal-figures/alobal-offshore/ <sup>3</sup> https://www.gov.uk/government/publications/offshore-wind-sector-deal/offshore-wind-sector-deal

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This relentlessly innovative sector is revitalising parts of the country which have not seen opportunities like this for years, especially coastal communities from Wick in northern Scotland to the Isle of Wight, and from Barrow-in-Furness to the Humber. The emergence of clusters across the UK is creating new centres of excellence in this clean growth boom. Even more companies will win work not only here, but around the world in a global offshore wind market set to be worth £30 billion a year by 2030.

Benj Sykes, UK Country Manager for Ørsted and co-chair of the UK's Offshore Wind Industry Council

# Offshore wind: a force for growth

Offshore wind continues to be a force for change in creating the UK's green energy future and, as the world's largest owner and operator of offshore wind, we are playing a leading role in this transition.

In 2018, we added a further 1.2 gigawatts of capacity when we opened Race Bank wind farm off the coast of Lincolnshire and Walney Extension, currently the world's largest offshore wind farm, off Cumbria's coast. We also completed building work on our new, state-of-the-art East Coast Hub in Grimsby, now the UK's largest offshore wind operations and maintenance base.

#### Clean energy generation off the east coast

In the North Sea, the two largest offshore wind farms in the world are now being built. Together, they will generate enough clean electricity for well over two million homes.

The first to open will be Hornsea One in 2020, generating 1.2 gigawatts. It will be joined by Hornsea Two in 2022, more than doubling the power capacity. In constructing and operating these giant projects, we work towards our vision of a world that runs entirely on green energy. We also make a long-term contribution to communities and industries in the Humber region and beyond (see page 18).

Our commitment doesn't stop at the world's largest offshore wind farms. Two more Hornsea wind farms are in the planning stage, which could more than double the output yet again. These will deepen the positive legacy of renewable energy in a region seeking regeneration having felt the effects of postindustrial decline.



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Record-breaking engineering landmarks like Walney Extension help us consolidate our global leadership position, break records for generating renewable energy and create thousands of high-quality jobs.

Claire Perry, Energy and Clean Growth Minister



# **Accelerating turbine innovation**

The success of the offshore wind industry and its achievement in reducing the cost of electricity are, in part, testament to a collective approach to tackling challenges. We continue to partner with academic and research institutions, as well as industry partners, to pioneer new technologies and innovative research.

Over the last 10 years, wind turbines have more than doubled in power and are being installed more efficiently than ever. This progress shows how the offshore wind sector has matured as a whole and Ørsted has played a leading part in this. Our commitment to innovation, knowledge-sharing and bridging stakeholder interests is unwavering. This rate of innovation is in part due to our collaboration with UK universities and research institutes, which have transformed the technologies we now use. For instance, our collaboration with Oxford University over the last ten years has resulted in pioneering breakthroughs in foundation design and we look forward to another five-year programme, supporting research and commissioning further sector-leading studies.

With Durham University, we have helped fund Masters and PhD students over eight years. We also sponsor the Chair in Renewable Energy, currently held by Professor Simon Hogg, as well as supporting the University's Energy Institute.

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This exciting new phase of collaboration with Ørsted will put the next generation of offshore wind farms on more cost-effective foundations. This will be challenging but essential if the cost of offshore wind energy is to be further reduced.

**Byron Byrne**, Professor of Engineering Science, University of Oxford and Chair of RAEng Research Fellowships

We have also partnered with the universities of Durham, Sheffield and Hull, alongside Siemens Gamesa, in a five-year Prosperity Partnership programme with the Engineering and Physical Sciences Research Council. This £7.6 million collaboration seeks to reduce the cost of electricity and support supply chain growth.

We are a leading participant in Aura, with the University of Hull. This cross-sector initiative brings together local government, communities and companies like ours to help build green energy skills, enterprise and innovation along the Humber, the UK's 'Energy Estuary'. In early 2020, Aura will be opening the Aura Innovation Centre to take this work forward.

In addition, alongside our industry peers, we continue to work closely with initiatives such as the Offshore Wind Accelerator and the Offshore Renewable Energy Catapult to fund and enable pioneering research, helping to bring down the cost of electricity from offshore wind.

![](_page_7_Picture_11.jpeg)

# Energy storage and grid stability

Thanks to steady investments in infrastructure, innovation, supply chains and skills by our sector, offshore wind is now more efficient than ever. This is good news for consumers and policy makers alike. The next challenge will be in storing wind energy so it is available when required.

Part of the solution lies in energy storage. Over the last year, we have invested in two energy storage projects, both in the Liverpool area: a 20-megawatt battery storage plant at Carnegie Road and a 'Behind the Meter' battery storage system connected to the Burbo Bank wind farm. We are already seeing promising results in how battery energy storage projects can provide grid services such as frequency regulation. This helps to support the integration of more variable renewable generation.

![](_page_8_Picture_5.jpeg)

## Ørsted people: Bridgit Hartland-Johnson

As one of our Investment Managers in Energy Storage and Solar, Bridgit is passionate about how storage technology can integrate green energy production with the grid.

#### How did you get into energy storage?

I have worked for technology companies that provide solutions for the grid nearly all of my working life and started to look at energy storage about 10 years ago when we were just starting to ask, "could we do something with this (storage technology)?".

#### What first attracted you to Ørsted?

I've always been interested in Ørsted and when it divested its oil and gas business, I liked it even more. So, when I saw it was starting an energy storage business, I got in touch and, in May last year, I started! I have since learnt everything there is to know about delivering an energy storage project into the energy market. I really love what I do and love to inspire young people to work in this industry.

#### What have you learned so far in the role?

The importance of agility can't be underestimated in the current energy market. As we've been introducing new technologies in traditional markets, we have already seen saturation in some areas, so we have to quickly think again and change direction. At the same time, Ørsted is changing to keep up with such a rapid transition in the energy sector.

#### How do you see the future of energy storage?

I strongly believe that storage – in all forms – is critical to building much needed flexibility into the grid. The scale of future wind farms, combined with retiring conventional generation and less predictable consumer behaviour, means that we need more tools to keep everything balanced.

![](_page_8_Picture_16.jpeg)

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# **Recycling and bioenergy**

Creating a world that runs entirely on green energy means looking not just at energy generation but also at deploying circular economy technologies to manage all our resources more efficiently.

#### From waste to resource: Renescience technology

One possibility is to extract value from secondary materials such as household waste. Our patented technology, Renescience, is taking on the challenge at our world-first bioenergy plant in Northwich, Cheshire.

At full capacity, the plant will take mixed waste from up to

110,000 nearby households and turn it into valuable products

such as recyclable materials (thus reducing landfill burden for Local Authorities). It can also generate enough energy from green gas to power 9,500 homes and has created 24 jobs in ongoing operations.

![](_page_9_Figure_7.jpeg)

# Green energy for British businesses

The green energy transition is not just about generation, it is also about consumption. We are applying our renewable energy know-how to help businesses and industry make sustainable, informed decisions when it comes to buying and using energy.

Our aim is to help businesses reduce their organisation's carbon footprint cost effectively, while boosting their Corporate Social Responsibility (CSR) credentials. As well as renewable energy, we offer customers smart tools to help them manage their energy flexibly, in addition to Corporate Power Purchase Agreements (PPAs) and risk management services.

As well as cutting costs and CO<sub>2</sub> emissions, Renewable Energy Guarantees of Origin (REGO) certificates give our customers complete visibility and traceability of emissions, helping them to report their footprint in line with initiatives such as RE100 and the Carbon Disclosure Project.

#### 

Ørsted is driving the transition to low-carbon energy systems in the UK, and we believe that businesses should have access to 100% renewable energy as part of this journey.

Ashley Phillips, Managing director at Ørsted Sales UK

#### Why green energy means business

In 2018, we commissioned a UK-wide report on consumer opinions around businesses and green energy. We are drawing on the findings to inspire our business customers and support them to switch to renewable energy.

3 out of 4

consumers are more inclined to choose a manufacturer or retailer that uses renewable energy.

## 82%

believe it is important to create a world fully powered by renewable energy.

More than 20% are willing to pay a premium for renewable energy.

#### A unique partnership with Northumbrian Water

We have entered into a 10-year offshore wind Power Purchasing Agreement with utility company Northumbrian Water. It will see the company meet almost a third of its energy needs (100 GWh) from our Race Bank wind farm. On top of significant carbon savings, we guarantee fixed prices for the long term. The agreement is an important step towards building long-term green partnerships with corporate power customers.

![](_page_9_Picture_25.jpeg)

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This agreement is not only a first of its kind in the UK; more importantly it aligns perfectly with our sustainability goals and our ambitions of creating a truly cohesive energy management strategy. The long-term stability this brings is fantastic for us and great news for our customers and stakeholders, because it reduces operational costs without compromising our work.

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# **Enabling sustainable growth**

The green economy has already proven its regeneration potential in some of the UK's industrial regions and, as the growth of offshore wind continues, so will the creation of export opportunities and jobs. As a company actively pursuing a green energy future, we have a responsibility to ensure that our growth is sustainable - for UK communities and for the habitats where we operate.

To make this a reality, we need to be investing in low-carbon skills today. Our Community Funds, apprenticeships and work in schools are just some of the ways in which we're building the skills pipeline. We also need to ensure that green energy can be sustainable for ecosystems too. We continue to build strong partnerships with world-leading organisations to understand and mitigate the complex interaction of wind farms with onshore, offshore and coastal habitats.

![](_page_10_Picture_6.jpeg)

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# Sustainable growth and the environment

As our industry continues to grow over the next decade, it will become increasingly important to understand and minimise impacts on UK habitats.

While offshore wind helps to mitigate climate change and its threat to nature, our understanding of the immediate impacts of our activities on marine ecosystems is still developing as we work with conservation bodies and Non-Governmental Organisations (NGOs) to further our knowledge and inform our approach. Our priorities, formalised within a new Offshore Wind Biodiversity Policy, are potential noise impacts on marine mammals, possible interference with sea birds and disturbances to seabed ecosystems and coastal environments as a result of installing cables.

Together with our partners, we are rolling out a programme of activities to address these priorities. For example, with our industry peers, we have convened global experts, regulators and statutory advisors to enable the offshore wind industry to set a best practice approach to underwater noise assessments.

#### **Migratory birds: strategic** monitoring

We operate a number of long-term research partnerships to understand patterns of bird migration and how these may be impacted by the presence of turbines. For example, ongoing work is

being carried out to track lesser black-backed gulls at Walney Extension and Burbo Bank Extension, as well as red-throated divers in Scotland, Iceland and Finland. In the Hornsea development zone off Yorkshire, Lincolnshire and Norfolk, we are partnering with the Flamborough and Filey Seabird Monitoring Group on a monitoring programme for kittiwakes and gannets, including drone tracking.

We have commissioned the Wildfowl and Wetlands Trust to undertake a monitoring programme for pink-footed geese. By fitting the birds with GPS tags, we can record movements between roosting sites and feeding areas. Outcomes will help the Trust predict any collision risks between birds and turbines.

#### Bringing oysters back into the **Thames Estuary**

UK populations of native oysters have declined by over 50% in the last 25 years due to habitat erosion unrelated to our industry. We have partnered with the BLUE Marine Foundation to understand how our Gunfleet Sands wind farm in the Thames Estuary can play a part in re-establishing once-prolific local oyster populations.

Initial indications are that the wind farm is well suited as a 'broodstock' site for oysters to grow. In particular, its proximity to inshore oyster restoration areas provides an ideal opportunity to further explore the role wind farms can play in oyster restoration in the southern North Sea.

The wind farm could become a flagship for wind-led conservation, not only in local restoration of this important species but also Europe-wide. The benefits of this could be far reaching, with no impact on the day to day operations of the wind farm.

The next steps are to conduct feasibility and pilot studies to determine the suitability of the Gunfleet Sands wind farm as a site for broodstock oysters. We will use these findings to inform how we make a positive contribution to the health and resilience of the UK's marine ecosystems and the coastal communities that depend on them.

# **Case study** Economic regeneration along the east coast

As we build the world's largest offshore wind farms, the economic 'ripple effect' of our investment is likely to be felt for decades to come.

![](_page_11_Picture_4.jpeg)

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Race Bank was the first project to use Hull-manufactured blades. We have also started production on the new longer B81 blade for Hornsea Two, so development does not stand still. This Facility supports around 1,000 jobs in Siemens Gamesa and another 3,000 in the local area, So it's having a real impact.

**Clark MacFarlane**, Managing Director, Siemens Gamesa Renewable Energy Ltd We have completed our East Coast Hub in the port of Grimsby. Constructed by local contractor, Hobson & Porter, it is the UK's largest offshore wind operations and maintenance base. Over 300 people work at the hub, which serves our Race Bank, Westermost Rough and Lincs wind farms (and will soon serve Hornsea One and Two as well). The Humber is receiving international recognition as the offshore wind centre of excellence. The hub has attracted global interest, with delegations visiting from as far afield as Taiwan, USA and Australia.

Out at sea, Race Bank used the first ever turbine blades to be made in Hull. With Ørsted's multiple orders of the highestspecification blades (including for the Hornsea wind farms), the Siemens Gamesa factory has become a flagship example of engineering excellence, creating new jobs and stimulating wider component manufacturing locally and globally.

We are focused on growing the competitive base of UK suppliers that can deliver this additional capacity of offshore wind as the industry grows. To ensure local companies, especially small and medium-sized businesses, are aware of the commercial opportunities at Hornsea Two, we have run a 'meet the buyer' event alongside our first-tier suppliers such as Balfour Beatty, Siemens Gamesa, ABB and VolkerInfra. Over 420 individual businesses attended the event. We and our suppliers are now working with some of these as supply chain partners.

#### Local skills and community funding

As well as creating jobs at our sites and in our supply chains, we Above all, the story of sustainable growth on the east coast contribute to local employability via our East Coast Community is one of partnership. As well as a £465,000 investment Fund, which ring-fences £75,000 for skills. One beneficiary has per annum from our East Coast Community Fund and our been the Grimsby Institute, which has delivered inspiring careers employee volunteering, we are actively involved in the Grimsby sessions to over 600 school children from primary and secondary Renewables Partnership, Team Humber Marine Alliance and schools in the Grimsby area who are interested in science, East of England Energy Group, alongside many other regional technology, engineering and maths. Ørsted apprentices such as initiatives. Together, we are championing the region as a blueprint for green, prosperous development, and our success David Davidson (see page 20) support this work by volunteering has generated international interest in the Humber's story. to inspire youngsters in renewable energy careers.

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Young people are inspired by other young people. Everyone enjoyed these sessions and it was a great pleasure to work with the Ørsted apprentices on this project.

**James Danby**, Head of External Contracts, The Grimsby Institute

![](_page_11_Picture_16.jpeg)

#### A shared vision for the East of England

The Council regards Ørsted as a key partner not just because of the scale of their investment in our borough but also because of the manner in which they go about their business on the ground – it is authentic and it is appreciated.

Rob Walsh, Chief Executive of North East Lincolnshire Council

# Jobs and skills

Our sector relies on specialist skills in science, technology, engineering and maths (STEM) but there is currently a national shortfall in these skills. We are working collaboratively to help redress the balance and to ensure that people in our local communities can access jobs in our growing industry.

![](_page_12_Picture_3.jpeg)

Through Aura, the innovation and skills initiative led by the University of Hull with industry partners, academia and national and local government, we are collaborating to understand our sector's skills requirements. The initiative will inform the development of a holistic approach to meeting those needs, spanning different educational stages.

Our Community Funds earmarked £161,766 for skills in the north-west and on the east coast in 2017/18, including providing hardship funding for students in financial difficulties. We work closely with training providers, colleges and local authorities and charities, such as Teach First (see page 25), to support skills development in our local communities, as well as participating in many careers and skills events across the year.

In addressing the shortage of STEM skills, we also seek to increase diversity in the renewables sector, with a number of programmes to create opportunities for women (see page 28).

We more than doubled apprentice placements for offshore technicians in our key regions of Grimsby and Barrow-in Furness in 2018. These three-year placements, run in partnership with the Grimsby Institute and Furness College, combine classroom learning with on-the-job training, leading to a Maintenance & Operations Engineering Technician qualification.

## Ørsted apprentices: David Davidson

Now into his second year as an apprentice Wind Turbine Technician, David is combining a passion for green energy, with pride in his home town of Grimsby.

What attracted you to becoming an apprentice at Ørsted? I wanted to be able to earn while gaining experience and qualifications and Ørsted stood out as a pioneer in the industry. I had always noticed its presence in Grimsby – whether it was the 10K sponsored runs or the educational sessions for young people - it felt like Ørsted really cared. Plus, I was impressed by the large portfolio of offshore wind farms and fantastic career opportunities.

What's it like being an apprentice in your home town? I was over the moon when the apprenticeship meant I could stay in the area. I've always been proud of the town. One of the most exciting things is the satisfaction of closing the turbine door at the end of a long shift, knowing I've contributed to producing electricity. I feel like I'm part of a green energy revolution!

#### What is the biggest challenge?

Completing my apprenticeship is obviously my next big milestone, after which I would like to explore living and working onboard the SOV (Service Operation Vessel), something I've already tried out during my apprenticeship at the Race Bank wind farm. In time, I'd really like to pass on what I've learned by becoming a mentor to other apprentices and new starters.

![](_page_12_Picture_14.jpeg)

# Supply chain growth

Our UK infrastructure projects have created the opportunity for significant contracts with companies up and down the country. In the last five years alone, we have entered into contracts with approximately 100 UK companies<sup>4</sup>. Over time, we are seeing innovation clusters forming, creating synergies and promoting knowledge-sharing. The Offshore Wind Sector Deal will boost the productivity of the supply chain across the country with up to £250 million of investment from across the industry.

As part of its £250 million investment into the supply chain through the Offshore Wind Sector Deal (see page 7) the industry will put £100 million into the Offshore Wind Growth Partnership. This will provide a new route for companies to enter the supply chain, to grow their business and to join the increasing number of companies exporting to industry projects across the world.

#### **Expanding export potential**

UK offshore wind manufacturers are already exporting to 22 countries around the world and the export value is expected to grow five-fold by 2030<sup>5</sup>. Our market leading position and strong pipeline of projects have been instrumental in maturing the UK offshore wind supply chain and stimulating export potential. We have directly contracted over 30 individual UK firms to supply overseas offshore wind farms.

Leveraging our expansion into other markets, we are working with UK companies across the entire lifecycle of our projects globally. In the development phase of our wind farms, UK suppliers are providing services, from electrical system engineering to management of unexploded ordinance.

<sup>4</sup>The majority of businesses we enterd into contracts who are valued at over £1 million <sup>5</sup> https://www.renewableuk.com/news/405399/Export-Nation---A-Year-in-UK-Wind-Wave-and-Tidal-Exports.htm

UK-manufactured cables and cable protection systems are also examples during the construction phase, and UK firms are carrying out a range of inspection and repair services on operational wind farms worldwide.

MHI Vestas supplied the turbine blades for our Borkum Riffgrund 2 wind farm in Germany from their Isle of Wight-based factory. This has supported exporting in lower supply chain tiers. For example, Bosch Rexroth UK now exports hydraulic pitch systems to Denmark to be used in MHI Vestas nacelles destined for wind farms around the world.

EEW OSB, a specialist Teesside manufacturer, was also able to make a competitive and winning bid for a multi-million-pound contract with our Borssele 1 & 2 offshore wind farms in the Netherlands.

# Our UK supply chain

# surveys

#### 1. Scotland

**Anatec** Maritime consultancy Attollo Offshore Accomodation jack up unit **CS Wind UK** Supplier of turbine towers Ecosse Subsea Systems (ESS) Boulder clearance **Global Maritime Consultancy** Marine warranty surveyors Gulf Marine Services (GMS) Accomodation jack-up vessel LDAdesign Design consultanc Robertson Group Ltd Civil engineering/construction **StormGeo** Meteorological services Wood Group Data logging

#### 2. North East England

Allied Exploration & Geotechnics Site investigations Cathie Associates Geoscience & geotechnica engineering, JDR Cables Array cables Modus Seabed Intervention Ltd ROV inspection & EOD services **Procomm Site Services** Site offices Tekmar Energy Cables protection system Wilton Engineering Transition pieces

#### 3. North West

Air Traffic Control Services Consulting-radar mitigation Bibby Marine Surveys, vessels, offshore logistics First Subsea Cable protection system Granada Material Handling Davit cranes HiDef Aerial Surveying Offshore survey James Fisher Offshore operations Leck Construction Civil engineering MPM North West Marine construction Neil Martin Group Civil engineering Power Systems Design Solutions Ltd Engineering services **RXPE** HV & dynamic reactive compensation technology & engineering VolkerInfra Onshore export cable installation

#### 4. Yorkshire and the Humber

AMS No Dig Directional drilling **CallMac** Offshore scaffoldina Carlbom Shipping Shipping agent **Counter Context** Stakeholder management & communications Hobson & Porter Civil engineering/ construction Mainprize Surveys, vessels (guard) Mott MacDonald Engineering consultancy **Rix Marine** Vessels (CTV) Siemens Gamesa Renewable Energy (SGRE) Wind turbine OEM, blade manufacturing Specialist Marine Consultants Ltd Offshore & vessel inspection

#### 5. Midlands

Balfour Beatty Civil Engineering Onshore substation construction **Craneking** Crane services **GE Grid Solutions** Electrical systems Kelvin Power Structures Transformer & fire enclosures Reach Engineering & Diving Services (REDS) Diving **Royal Haskoning DHV** Environmental consultancy Siemens Metering Metering

#### 6. East Anglia

- 6 Alpha Associates UXO
- Brown & May Marine Surveys & EIA consultancy
- **CWind** Offshore operations
- **Gardline** Offshore surveys
- Seajacks WTG installation
- Niras Consulting Consenting & licensing
- Ordtek UXO risk management
- Raytheon Systems Radar mitigation
- **Red7 Marine** Offshore construction
- **RML** Offshore operations

#### 7. Greater London & South East

Aditus Solutions Logistics Apem Surveys **BPP Technicial Solutions** Engineering & technical consultancy **Dalcour Maclaren** Site & land rights services EGS International Cable survey Fugro Surveys, inspection and monitoring Geotechnical Consulting Group Engineering & technical consultancy **H&Askham** Cable pulling & jointing HR Wallingford Surveys & engineering J Murphy's & Sons Civil engineering; onshore works London Offshore Consultants Marine warranty surveyor MeteoGroup Ltd Meterological services **MHI Vestas** Wind turbine OEM, blade manufacturing **Mwaves** Marine warranty surveyors **Osprey Consulting Services** Safety & engineering support Oxford Archaeology Archaeology **Guod** Planning consultants Red Penguin Marine Marine warranty surveyor **RPS Energy** EIA consultancy Seacat Services Vessels (CTV) Spectrum GEO Surveys The Environment Partnership Support for ecological works Theta Services Marine warranty surveyors **WSP** Onshore substation design

#### 8. Wales & South West

- Atkins (Bristol) Design & engineering
- BGB Scaffolding Ltd Scaffolding
- Jones Bros Civil engineering/construction
- Marine Designs Marine engineering
- MSA Latchways PPE
- **Portakabin** Temporary offices
- Prysmian Array Cable
- Turbine Transfers Vessels (CTV)

# ( Our corporate responsibility

With the opportunity to deliver a green energy future for the UK comes the responsibility to have a positive impact at all levels of our business. Whether through investing in our communities, championing diversity and inclusion or taking steps to ensure our own operations are greener, we take our responsibility seriously. And nowhere more so than in striving for the safety and wellbeing of

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# In the community

The economic opportunities created from green energy can be multiplied by investing directly in UK communities. Through our Community Benefit Funds, and partnerships, we support a wide range of local causes.

#### **Community Benefit Funds**

We currently operate three Community Funds:

- 1 The Burbo Bank Extension Community Fund offers approximately £225,000 each year, for the lifetime of the Project. To date, over 90 grants have been awarded, totaling £783,000.
- 2. The Walney Extension Community Fund, which will run for the lifetime of the project, gives £600,000 each year £100,000 of which is set aside to support local skills funding. To date, over 100 projects have been awarded grants, with a total value of over £1.7million. It also provides £300,000 for the West of Morecambe Fisheries Funds, an independent, not-for profit UK company that funds fishing community projects.
- The East Coast Community Fund is part of the 3. community engagement programme for our Race Bank and Hornsea Project One offshore wind farms. It makes available £465,000 per annum, £75,000 of which is set aside for skills funding. In total, the fund has awarded nearly 100 grants since it began, to a total of over £1.1 million.

#### Saving lives at sea with the RNLI

We have supported the Royal National Lifeboat Institution (RNLI) since 2015 and have now renewed our partnership for an additional three years. To reflect our rapidly expanding offshore footprint in the UK, we have extended our partnership to include Skegness Lifeboat Station - supporting a total of seven RNLI lifeboat stations to help save even more lives over the next three years.

#### Helping teachers change lives

It can take just one brilliant teacher to change a child's life. By supporting the charity Teach First, we are helping to tackle educational inequalities where they are most prevalent.

To this end, having supported the charity since 2016, we have now committed to funding teacher recruitment and training in Grimsby and Merseyside for the next three years. What's more, Ørsted colleagues are giving their time to inspire kids in schools and to mentor their teachers.

Together, we want to improve social mobility so that today's school children can enjoy opportunities in life and access to interesting, secure jobs.

![](_page_14_Picture_26.jpeg)

Supporting the local area: providing community project funding through our East Coas Community Fund

![](_page_14_Picture_28.jpeg)

Walney Over Wyre Social and Activity Club

rsted

# **Employee volunteering**

At Ørsted, our commitment to operating with integrity is matched only by employee interest in giving back to the community. Over the years, colleagues have been giving their time to support charities, from Teach First to London's Natural History Museum.

Volunteering is widely recognised as important to workforce morale. In the last year, we have formalised our volunteer offer in a policy to invite action for a more sustainable world, either at home or at work. In it, we encourage volunteers to see how their time and skills are contributing to the Sustainable Development Goals.

![](_page_15_Picture_4.jpeg)

## Ørsted people: Natalia Lopez

As well as working on Hornsea Two as the Offshore Environmental Manager, Natalia is energising the younger generation through volunteering on the Generate: Scientists of the Future programme. A collaboration between Ørsted, London's Natural History Museum and four schools across Westminster and Lambeth, the programme aims to build 'science capital' among school children and open their eyes to a variety of scientific careers.

## What inspired you to take part in Ørsted's volunteering programme?

Having studied marine biology at university, I'm now doing a really interesting and varied job. I wanted to show youngsters that studying science opens up more doors than simply becoming a doctor or working in a lab. I'd already done some charity work in London with kids from inner city areas and I knew the challenges arising from family situations or overstretched schools. So, when I heard about 'Meet the Scientist' sessions at the museum, I was keen to get involved.

#### What did your volunteer work involve?

I and another colleague from Ørsted, as well as an archaeologist and curator from the museum, ran an interactive session for around 60 secondary school students. We took along wind turbine parts and Lego models. The kids really liked the visual aids. We asked them what they knew about climate change and renewable energy and they asked us about our roles. Some of the questions were quite difficult! But it was nice to see how enthusiastic they were about renewable energy.

#### Has volunteering helped you professionally?

Definitely – speaking in front of people who can ask you anything is something you can't prepare for and it definitely made me more confident. But it also taught me to be more concise and less technical – that's been useful for me as I deal with so many external stakeholders for work. Their real interest in my job made me feel really proud and even more energised about what I do.

# 11

Being a part of the Teach First Coaching Programme during the first year of my Leadership Development Programme was incredibly helpful to my development as a teacher and leader.

![](_page_15_Picture_16.jpeg)

![](_page_15_Picture_17.jpeg)

# An inclusive workplace

To design, build and run green energy systems of the future, we need the very broadest spectrum of talent.

We believe that a thriving and diverse workforce is crucial to our business. We have now introduced a Diversity and Inclusion Steering Committee to identify and address inequalities across the organisation. Launching our LGBTQ+ Network with energetic champions has been another milestone in creating a more balanced workplace.

With gender parity a historic challenge in our sector, our focus is currently on removing barriers women may face to accessing jobs or promotion. During the year, an independent expert review was conducted of our end-to-end hiring process to ensure it is fair, equitable and inclusive and that we are attracting and benefiting from diverse candidates.

The Women in Ørsted network's calendar of events continues to inspire and engage all employees.

We also offer mentors to support promotion and leadership development – coming from both inside and outside the business.

Having commissioned an external review of our family friendly policies, we are now partnering with Leaders Plus to trial work/ life balance approaches for new parents.

#### Equality starts in the community

In 2018, we welcomed our first two female apprentices. This is an important step, but we need to do more to become an attractive employer for women. So, as well as our work in schools and with Teach First (see page 25), we are also working with a number of national initiatives:

- Founding sponsor of POWERful Women, an organisation that helps advance the professional development and leadership of women across the UK's energy sector.
- Founding member of the Energy Leaders Coalition to support more women into leadership positions in our sector.
- Member of Women in Science & Engineering (WISE), an organisation that works across classrooms and boardrooms.
- Regular contributor to careers events by WiME (Women into Manufacturing and Engineering), helping to inspire women in Grimsby and Hull to consider a career in the sector.

#### From warship to wind farm

At Ørsted, we value the transferable skills that those who have been in the Armed Forces can bring. We have committed to the Armed Forces Covenant, a Government initiative to acknowledge and understand the immense contribution of those who serve or who have served in the armed forces.

It's turned out that my skills are really transferable. A wind turbine actually uses similar components to a warship, plus working in a high-pressure environment, living with your colleagues day-in, day-out. It's all really set me up for my current role. Also, the fact I could make a positive impact on the environment was really important to me, especially having a young family.

**Ash Hedges,**, former Royal Navy engineer, now Deputy Operations Manager for Westermost Rough Offshore Wind Farm

#### People matter

Each year, we conduct a confidential employee survey, People Matter. In 2018, we saw encouraging results in terms of employee satisfaction, motivation and loyalty in the UK. We scored five points above the Global Employee and Leadership Index<sup>™</sup> average<sup>6</sup> and for loyalty we came seven points higher (two points above our Group average).

#### Satistaction & Motivation

![](_page_16_Figure_23.jpeg)

![](_page_16_Picture_24.jpeg)

Initiatives such as Ørsted Life and our volunteering policies (see page 26) are examples of how we are taking action on what our people tell us. You can find out more about what we are doing to improve employee engagement in our Group Sustainability Report.

![](_page_16_Figure_28.jpeg)

![](_page_16_Picture_29.jpeg)

Ørsted

International GELx

# Safety, health and wellbeing

Every person who comes to work at Ørsted, whether as a contractor or as an employee, does so knowing their safety is our number one priority.

This year, the frequency of injuries resulting in time off work (Lost Time Injury Frequency) reached its lowest level to date. It is testament to the proactive approach we have taken to safety. For operational safety, a hub-based system is enabling individual wind farms to apply and share the same consistent standards.

Ahead of target for 2020 injury reductions

![](_page_17_Figure_6.jpeg)

#### Walking the talk on safe construction

During construction of both our Race Bank and Walney Extension wind farms, project managers took regular 'safety walks' with colleagues, helping to spot any risks and encouraging these to be shared with the wider team. In 2018, we invited project investors to join these walks, emphasising just how business-critical safe sites are.

It's thanks to practical actions like these that Race Bank achieved such a low lost time injury rate (0.7 for over 4 million hours of construction and commissioning work). We are now rolling out safety walks to our Hornsea construction sites.

However, despite excellent progress, we cannot be complacent and we continue to raise momentum around the importance of site safety, both in construction and operations.

#### Staying well in and out of work

To maintain our level of growth and to attract and retain the talent we need, we have been focusing on work/life balance. Our global health strategy takes a holistic approach to wellbeing, with practical support and advice on a range of issues, including nutrition, exercise and mental health. In 2018, the Ørsted Life programme launched to promote health and happiness in and out of work, with simple strategies spanning stress-management tips and subsidised gym membership, fitness classes and healthy menus in our canteens. We also offer a dedicated helpline for mental health support.

We are committed to offering a health strategy which covers both mental and physical well-being and one that helps our employees maintain their energy levels in and out of work. Ørsted Life is made up of four key pillars: move, focus, share and care and is designed to promote happy, healthy and engaged employees. We want our health strategy to deliver a working life for our employees that is both balanced and sustainable.

Simon Copp, Head of People & Development, UK

# **Greener operations**

Whether it is lower-carbon wind turbines or low-waste canteens, we have a responsibility to lead the way in our own operations.

#### **Efficient logistics offshore**

While wind turbines create clean, green energy, their operations • and maintenance require fuel. We are constantly working to reduce our consumption, as well as finding ways to make our behaviours and processes smarter and more efficient. In 2018, we took a number of steps in our logistics operations, such as improving data capture on the speed and performance of our crew transfer vessels in order to identify ways to reduce fuel consumption.

The Service Operating Vessels (SOV) for our Race Bank and Hornsea One wind farms are fitted with Selective Catalytic Reduction (SCR) to reduce nitrogen oxides and all of our SOVs are hybrid vessels with variable engines to reduce fuel consumption.

#### Thinking smarter at London HQ

Reflecting our portfolio of energy efficiency services for customers, we have been working to reduce our CO<sub>2</sub> impact at our London headquarters.

![](_page_17_Picture_23.jpeg)

- Lighting retrofit: we replaced all bulbs with LEDs. Fitted with intelligent controls, this simple change could reduce our lighting carbon emissions by 64%, saving us money along the way.
- Sustainable consumption: we use reusable glass bottles for catered meetings and events and all employees are given a bioplastic water bottle. In 2018, we introduced a 10% discount in the café for those using a reusable cup. All food containers, cutlery, coffee cups and lids are now compostable and all drinking straws are made from paper. We have also replaced all single-use plastics with sustainable alternatives.
- Fewer deliveries: by working with other tenants in the building, we are reducing the number of suppliers for cleaning and waste management. By using the same contractors, we reduce the number of deliveries and in turn, carbon emissions. It also builds good relationships with our neighbours.

# Keeping the spotlight on climate change

We believe that home is not just a house or a town, but the planet where we live and that loving our our home means taking action. We have taken unprecedented action to transform our business and we want to use our story to help inspire debate and conversation.

Climate change and the pursuit of a more sustainable world remain two of the greatest challenges that civilisation has ever best images from the most prestigious photographic faced. We sponsor events, conferences and exhibitions that help inspire constructive debate and practical action among different audiences, from policy makers and business leaders to and amateurs across almost 100 countries. the general public.

awareness of the threats facing them. Featuring the competition of its kind in the world, the exhibition attracts tens of thousands of entries from professionals

#### Wildlife Photographer of the Year

The Wildlife Photographer of the Year Exhibition at the Natural History Museum showcases the beauty of the planet we call home and the wildlife that inhabits it, while raising

Below: A Bear on the Edge by Sergey Gorshkov, highly commended in the Wildlife Photographer of the Year competition in 2018.

![](_page_18_Picture_8.jpeg)

# Orsted

![](_page_18_Picture_10.jpeg)

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![](_page_18_Picture_12.jpeg)

orsted.co.uk

5 Howick Place SW1P 1WG

Tel: +44 (0) 20 7811 5200